CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 87-047

WASTE DISCHARGE REQUIREMENTS FOR

BROWNING-FERRIS INDUSTRIES
CORINDA LOS TRANCOS LANDFILL
OX MOUNTAIN RANCH
HALF MOON BAY, SAN MATEO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Board, finds that:

1. The Board on June 15, 1976, adopted Order No. 76-70 prescribing waste discharge requirements for Browning-Ferris Industries, formerly known as San Mateo County Scavenger Company, hereinafter called the discharger, for the Corinda Los Trancos landfill in the Ox Mountain ranch.

2. The discharger by application dated March 31, 1986, and amendments dated April 28, 1986, and January 5, 1987 has applied for revision of their current Waste Discharge Requirements (WDR), in order to comply with Title 23, Chapter 3, Subchapter 15 of the California Administrative Code, hereinafter called Subchapter 15.

3. The discharger accepts approximately 2,200 tons per day of nonhazardous solid waste consisting of municipal, industrial and agricultural refuse. No liquid wastes (i.e. less than 50% solids), other than limited amounts of dewatered sewage sludge, can be disposed at this site.

4. The active San Andreas fault is located approximately 2.5 miles to the east, the active Seal Cove fault is located approximately 4.5 miles to the west, and the potentially active Pilarcitos fault is located approximately 1.3 miles to the east. There is no known active fault within the landfill site. The site meets the siting requirements contained in Title 23, Chapter 3, Subchapter 15 of the California Administrative Code (Subchapter 15) that prohibit siting Class III landfills on a Holocene fault.

5. The landfill is in a steepwalled canyon approximately 4.5 miles northeast of the town of Half Moon Bay. The toe of the landfill is at approximately 550 feet elevation, and the top of the fill will be at approximately 1100 feet. The site is underlain by granodiorite bedrock which is extensively fractured, faulted and weathered to depths of 100 feet or more.

6. Corinda Los Trancos Creek was routed around the perimeter of the site in 1984. Previously, the Creek flowed through a culvert under the refuse fill. Runoff from the side walls of the canyon flow into the perimeter ditch. The perimeter ditch discharges into a settling pond, which in turn, discharges to the natural Corinda Los Trancos Creek. The Creek flows into Pilarcitos Creek south of Highway 92. Water still flowing in

the old culvert under the refuse, and flow from springs and ground water seeps coming from under the fill, are collected in pipes and discharged to on-site clay lined ponds. This water is contained on-site for dust control.

7. The discharger indicates that the soil and rippable rock were removed from the site as the landfill construction progressed up the canyon. There is a barrier constructed of compacted on-site soils between the fill and the groundwater and spring flow collection system. The leachate collection and removal system consists of a single leachate collection pipe above the constructed barrier. The leachate is separated from the ground water collection system by the constructed barrier. However, ground water monitoring data indicate that leachate may be discharging or threatening to discharge to waters of the State at the toe of the fill.

8. The landfill was constructed in and over Corinda Los Trancos Creek. The presence of seeps and springs in the rock against and above the fill indicates that ground water is elevationally higher than the bottom of the refuse.

9. The site does not comply with Subchapter 15, Section 2530 (c), which requires existing landfills, to be operated to ensure that wastes will be a minimum of 5 feet above the highest anticipated elevation of underlying ground water. This is a localized condition in the canyon walls caused by springs and seeps. The discharger has installed a specific engineered alternative (hydraugers and a ground water collection system) to control these springs and seeps. Pursuant to Section 2510(b) the discharger has requested an alternative to the requirements of Section 2530(c).

10. The remaining fill life of the site is approximately 15 months.

11. Based on the limited remaining fill life of the site, the impracticality of retro-fitting the landfill, and the fact that the specific engineered alternative is consistent with the performance goal addressed by the requirements of Section 2530(c) and affords equivalent protection against water quality impairement, the Board approves of the discharger's alternative to Section 2530(c).

12. Background water quality in the soil, bedrock, and Creek, for the purpose of establishing Water Quality Protection Standards (WQPS), has not been determined. Compliance with the requirements of this Order will provide for the establishment of interim WQPS within three months of adoption of this Order, and establishment of final WQPS according to the requirements of Subchapter 15 within one year after adoption of this Order.

13. The existing and potential beneficial uses of the groundwater downgradient of the landfill are as follows:

    a. Domestic supply
    b. Agricultural supply
    c. Industrial process and service supply

14. The existing and potential beneficial uses of Corinda Los Trancos Creek downgradient of the landfill, Pilarcitos Creek, and contiguous water bodies are as follows:

a. Domestic supply
b. Agricultural supply
c. Wildlife habitat
d. Warm fresh water habitat
e. Cold fresh water habitat
f. Preservation of rare and endangered species
g. Fish migration
h. Fish spawning

15. The surrounding land is used for water shed, agriculture and open space.

16. The discharger submitted, as a part of their Report of Waste Discharge, the following reports and letters: 1) "Report of Waste Discharge" (Purcell, Rhoades & Assoc. March 31, 1986), 2) letter from Daniel J. Rhoades, Purcell, Rhodes & Assoc. dated April 28, 1986; and 3) letter from Dean Schnaible and Bruce Murphy of Purcell, Rhoades & Assoc. dated January 5, 1987.

17. The discharger's Report of Waste Discharge (ROWD) is deficient in the following areas:

    a. Background ground and surface water quality and water quality protection standards have not been established according to the requirements of Sections 2552 and 2595(g) of Subchapter 15.

    b. An adequate stability analysis demonstrating the stability of the landfill and the containment structures during a maximum probable earthquake has not been completed per Section 2595(f) of Subchapter 15.

    c. The hydrogeology was not defined sufficiently to determine the most probable path(s) of leachate migration per Section 2553(a) of Subchapter 15.

    d. Mapping and analysis of springs and seeps outside of the fill has not been completed per Section 2595(g) of Subchapter 15.

    e. The adequacy of leachate containment has not been demonstrated per Section 2540(c) of Subchapter 15, specifically, construction details on the upper and lower grout curtains and the leachate control structure.

    f. A contingency plan has not been submitted per Section 2596(b) of Subchapter 15.

    g. Maps showing the locations of all existing water pipes and diversion structures have not been submitted per Section 2596(a) of Subchapter 15, specifically, the horizontal drains, and all discharge points must be located.

18. In accordance with Subchapter 15 of the California Administrative Code, Title 23, Chapter 3, the life of the site includes the closure and post-closure period.

19. The Board adopted a revised Water Quality Plan for the San Francisco Bay Basin on July 1, 1982 and this Order implements the water quality objectives stated in that plan.

20. This is a continuing project, therefore persuant to Section 21166, it is exempt from the California Envorinmental Quality Act.

21. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge, and has provided them with an opportunity to submit their written views and recommendations.

22. The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Browning-Ferris Industries, and any other persons that currently or in the future own this land or operate this facility, shall meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and shall also comply with the following:

A. PROHIBITIONS

1. The disposal of waste shall not create a pollution or nuisance as defined in Section 13050(l) of the California Water Code.

2. Wastes shall not be placed in or allowed to contact ponded or flowing water from any source whatsoever.

3. Wastes shall not be disposed of in any position where they can be carried from the disposal site and discharged into waters of the State or of the United States.

4. Hazardous and designated wastes as defined in Sections 2521 and 2522 of Subchapter 15 and high moisture content wastes (including septic tank waste and wastes containing less than 50% solids), shall not be deposited or stored at this site, except for the limited amounts of dewatered sludge currently being accepted from the coastside communities.

5. The discharger shall not cause the following conditions to exist in waters of the State at any place outside the waste management facility:

   a. Surface Waters

      1. Floating, suspended, or deposited macroscopic particulate matter or foam.

      2. Bottom deposits or aquatic growth.

      3. Alteration of temperature, turbidity, or apparent color beyond natural background levels.

4. Visible, floating, suspended or deposited oil or other products of petroleum origin.

5. Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

b. Groundwater

1. The groundwater shall not be degraded or the beneficial uses impaired as a result of the waste disposal operation.

6. Leachate from wastes and ponded or flowing water containing leachate or in contact with refuse shall not be discharged to waters of the State or the United States.

7. Ash shall not be disposed at this site, except with the written approval of the Executive Officer.

B. SPECIFICATIONS

1. Water used during disposal operations shall be limited to a minimal amount necessary for dust control and fire supression.

2. The site shall be protected from any washout or erosion of wastes or covering material and from inundation which could occur as a result of a 100-year 24-hour precipitation event.

3. Surface drainage from tributary areas, and internal site drainage from surface and subsurface sources, shall not contact or percolate through wastes during disposal operations or during the life of the site. Drainage ditches constructed over refuse fill will be underlain with a minimum 5-foot thickness of compacted earthfill.

4. Measures shall be taken to ensure that leachate in the leachate collection system can flow freely into the collection tanks. Measures shall also be taken to assure that leachate collection tanks and extraction wells will remain operational during the active life of the site.

5. The leachate monitoring and control system shall be maintained and operated to prevent the buildup of hydraulic head. The leachate control system, and the leachate monitoring and extraction wells, shall be inspected monthly.

6. The discharger shall ensure that the foundation of the site, and the structures which control leachate, surface drainage, erosion and gas for this site are constructed and maintained to withstand conditions generated during the maximum probable earthquake.

7. The discharger shall operate the waste management facility so as not to cause a statistically significant difference to exist between water

quality at the compliance points and the following Water Quality Protection Standards. The compliance points are identified as monitoring wells MW1A and MW1B thru MW4A and MW4B, and at the point(s) at which all diverted water, runoff and underflow are discharged to Corinda Los Trancos Creek, in the attached self-monitoring program. The background water quality monitoring points are identified as well G-4; and for the surface water, the natural creek above the landfill.

1. pH =
2. Electrical Conductivity (EC) =
3. Total Organic Carbon =
4. Total Suspended Solids =
5. Total Kjeldahl Nitrogen =
6. Settleable Solids* =
7. Total Disolved Solids =
8. Potassium =
9. Sodium =
10. Cadmium =
11. Chromium =
12. Iron =
13. Nickel =
14. Selenium =
15. Zinc =
16. Fluoride =
17. Manganese =
18. Lead =
19. Turbidity* =
20. Chloride =
21. Chemical Oxygen Demand (COD) =
22. Ammonia Nitrogen =
23. Benzene =
24. Trans-1,2-Dichlorethene =
25. Ethylbenzene =
26. Methylene Chloride =
27. Tetrachloroethene =
28. Trichloroethene =
29. Toluene =
30. Acetone =
31. 1,1-Dichloroethane =
32. Total-1,2-Dichloroethene
33. 2-Butanone =
34. 2-Hexanone =
35. Total xylenes
36. 1,4-Dichlorobenzene =
37. Naphthalene =
38. Bicarbonate Alkalinity, as $CaCo_3$ =
39. Sulfate =
40. Silica =

* for compliance with WQPS for surface water only.

8. The discharger shall install any additional monitoring devices required to fulfill the terms of any Self-Monitoring Program issued to the discharger in order that the Board may evaluate compliance with the conditions of this Order.

C. PROVISIONS

1. The discharger shall comply with all Prohibitions, Specifications, and Provisions of this Order, except Specifications B.6, and B.7 immediately upon adoption of this Order.

2. The discharger shall comply with Specifications B.6, and B.7 according to the following schedule of tasks:

   a. Submit by August 31, 1987, to the Board for approval, a slope stability analysis that evaluates the stability of the design slopes under static and dynamic loading conditions. This report shall address peak rock acceleration and the effect of a maximum probable earthquake on the stability of the landfill and all of the containment structures including the drainage system. If this stability analysis finds that the design of the landfill is not stable for any reason an amended ROWD, that provides a corrective action plan that will ensure site stability, shall be submitted by October 30, 1987.

   b. Submit by September 21, 1987, to the Board for approval, a report that proposes background ground and surface water quality, and water quality protection standards, for the parameters listed in Specification B.9., according to the requirements of Articles 5 and 9 of Subchapter 15. This report shall include:

      i. a map and water quality analyses of the springs and seeps outside of the fill area;
      ii. map(s) showing the locations of all existing water and leachate pipes and diversion structures and their discharge points, including the horizontal drains; and the limits of the refuse fill.
      iii. a determination of the most probable path(s) of leachate migration; and
      iv. as-builts of the leachate control structure, a determination of the adequacy of leachate containment structures, and an evaluation of the quantity of leachate produced by the site and quanity collected in the leachate collection and removal system.

   c. Submit by June 30, 1987 the following information on the upper and lower grout curtains: the composition of the grout mix; the size of the drill holes; the location, depth and log of the water test hole; the exact grouting procedures followed including the order in which the holes were drilled; the rationale for the pressure used; an evaluation of the extent of microfracturing resulting from the pressure used; and the locations and data from the check holes.

   d. Submit by June 30, 1987 information on how the leachate monitoring wells were constructed including; the construction details, depth of the wells, whether the wells penetrated to the bottom of the fill, and whether the wells penetrated the subsurface barrier.

3. The discharger shall submit to the Board a draft closure and post-closure maintenance plan for the ultimate closure of the landfill

shall by September 30, 1987. The proposed plan shall include, at a minimum, the requirements of Subchapter 15; and document the establishment of an irrevocable closure fund or provide other means to ensure closure and post-closure maintenance of the landfill in accordance with the closure plan. The final plan should be submitted to the Board for approval no later than 60 days after receiving comments on the draft plan from the Executive Officer.

4. Submit to the Board for approval, a contingency plan which addresses failure or breakdown of waste handling facilities or containment systems, including notice of any such failure, or any detection of waste or leachate in monitoring facilities, to the Regional Board, local governments, and water users downgradient of the landfill. Submit the draft plan by June 30, 1987. The final plan should be submitted no later than 60 days after receiving comments on the draft plan from the Executive Officer.

5. Place bench marks to establish the extent of the disposal area, and describe the boundaries in terms of California coordinates or the equivalent. All survey work shall be completed by a lienced surveyor. Submit a map showing the bench marks and boundaries of the disposal area by September 1, 1987.

6. The Board shall be notified immediately of any slope failure occurring in the landfill or in the surrounding area which might effect the stability of the landfill or containment facilities. Any failure which threatens the integrity of containment features or the waste management unit shall be promptly corrected to the satisfaction of the Executive Officer.

7. The Board shall be notified within seven days if fluid is detected in a previously dry leachate collection and removal system or if a progressive increase is detected in the volume of fluid in a leachate collection and removal system.

8. The discharger shall file with the Board self-monitoring reports performed according to the self-monitoring program issued by the Board.

9. All reports submitted to the Board pursuant to these Provisions shall be prepared under the supervision of a registered civil engineer or certified engineering geologist.

10. The discharger shall remove and relocate any wastes which are discharged at this site in violation of these requirements.

11. The discharger shall notify the Board within 30 days after the completion of any partial or final closure activities. The discharger shall certify under penalty of perjury thal all closure activities were performed in accordance with the most recently approved closure plan and in accordance with all applicable regulations. The dischager shall certify that the closed waste management unit shall be maintained in accordance with an approved post-closure maintenance plan.

12. The discharger shall maintain a copy of this Order at the site so as to be available at all time to site operating personnel.

13. This Board considers the property owner and site operator to have a continuing responsiblity for correcting any problems which arise in the future as a result of this waste discharge or related operations.

14. The discharger shall notify the Board in writing of any proposed change in the character, location, or quantity of this waste discharge, or ownership or responsibility for construction, operation, closure, or post-closure maintenance of the landfill. This notification shall be given prior to the effective date of the change and shall include a statement by the new discharger that construction, operation, closure, and post-closure maintenance will be in compliance with any existing waste discharge requirements and any revisions thereof.

15. The discharger shall maintain all devices or designed features installed in accordance with this Order such that they continue to operate as intended without interuption except as a result of failures which could not have been reasonably foreseen or prevented by the discharger.

16. The discharger shall permit the Board or its authorized representatives:

    a. Entry upon the premises on which wastes are located or in which any required records are kept.

    b. Access to copy any records required to be kept under the terms and conditions of this Order.

    c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Order.

    d. Sampling of any discharge or groundwater covered by this Order.

17. Board Order No. 76-70 is hereby rescinded.

18. These requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under federal, state or local laws; and do not authorize the discharge of wastes without appropriate permits from other agencies or organizations.

I, Roger B. James, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 20, 1987.

Roger B. James
Executive Officer

Attachments: A) Site map
B) Self Monitoring Program

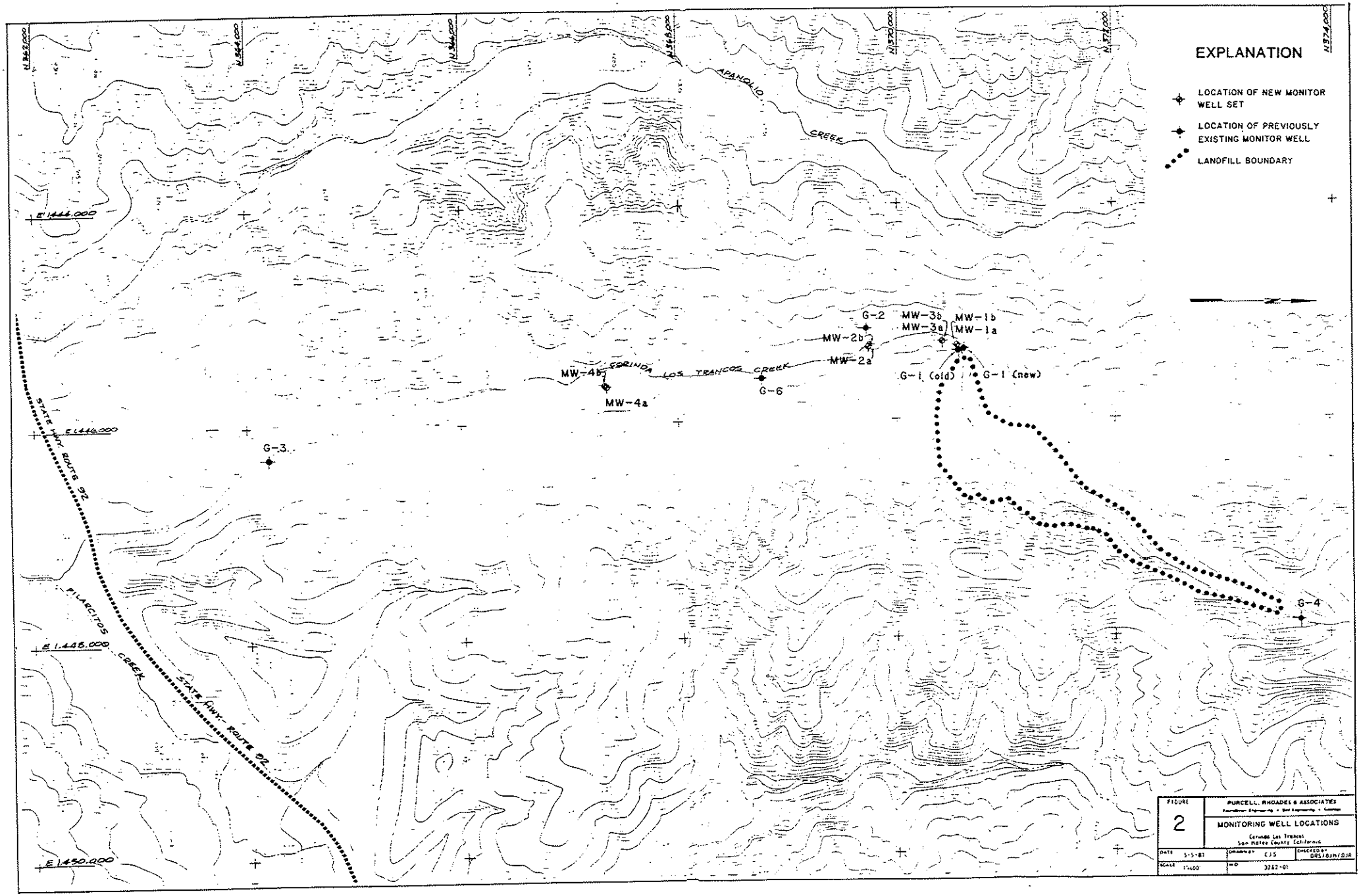

FIGURE 2

PURCELL, RHOADES & ASSOCIATES
Foundation Engineering • Soil Engineering • Geology

MONITORING WELL LOCATIONS
Cerrado Los Trancos
San Mateo County, California

DATE 5-5-83 | DRAWN BY CJS | CHECKED BY DRS/DJM/DJR
SCALE 1"=400 | JOB NO. 3242-01

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

BROWNING-FERRIS INDUSTRIES

CORINDA LOS TRANCOS LANDFILL

OX MOUNTAIN RANCH

HALF MOON BAY, SAN MATEO COUNTY

ORDER NO. 87-47

CONSISTS OF

PART A

AND

PART B

PART A

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No.73-16. This Self-Monitoring Program is issued in accordance with Section C.3 of Regional Board Order No. 87-xxx.

The principal purposes of a self-monitoring program by a waste discharger are: (1) to document compliance with waste discharge requirements and prohibitions established by the Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sampling

Sample collection, storage, and analyses shall be performed according to most recent version of Standard Methods for the Analysis of Wastewater and in accordance with an approved sampling and analysis plan.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.

2. A composite sample is a sample composed of individual grab samples mixed in proportions varying not more than plus or minus five percent from the instantaneous rate of waste flow corresponding to each grab sample collected at regular intervals not greater than one hour, or collected by the use of continuous automatic sampling devices capable of attaining the proportional accuracy stipulated above throughout the period of discharge or 24 consecutive hours, whichever is shorter.

3. Receiving waters refers to any water which actually or potentially receives surface or groundwaters which pass over, through, or under waste materials or contaminated soils. In this case the groundwater beneath and adjacent to the landfill, the surface runoff from the site, the drainage ditches surrounding the site, Corinda Los Trancos Creek, Pilarcitos Creek, and the Pacific Ocean are considered the receiving waters.

4. Standard observations refer to:

   a. Receiving Waters

1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area.

2) Dicoloration and turbidity: description of color, source, and size of affected area.

3) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.

4) Evidence of beneficial use: presence of water associated wildlife

5) Flow rate.

b. Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

c. Perimeter of the waste management unit.

1) Evidence of liquid leaving or entering the waste management unit, estimated size of affected area and flow rate. (Show affected area on map)

2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.

3) Evidence of erosion and/or daylighted refuse.

d. The waste management unit.

1) Evidence of ponded water at any point on the waste management facility.

2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.

3) Evidence of erosion and/or daylighted refuse.

D. SCHEDULE OF SAMPLING, ANALYSIS, AND OBSERVATIONS

The discharger is required to perform sampling, analysis, and observations according to the schedule specified in Part B, and the sampling and analysis plan described in letters from Purcell, Rhodes and Associates dated January 5, 1987, and January 23, 1987.

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the discharger, and shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number.

2. Date and time of sampling.

3. Date and time that analyses are started and completed, and name off the personnel performing the analyses.

4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used. A reference to a specific section of a reference required in Part A Section B is satisfactory.
5. Calculation of results.

6. Results of analyses, and detection limits for each analyses.

F. REPORTS TO BE FILED WITH THE BOARD

1. Written self-monitoring reports shall be filed by the 15th day of the month following the report period. In addition an annual report shall be filed as indicated in F.2. The reports shall be comprised of the following:

   a. Letter of Transmittal

      A letter transmitting the essential points in each self-monitoring report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations, such as, operation and/or facilities modifications. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the corespondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

   b. Each monitoring report shall include a compliance evaluation summary sheet. This sheet shall contain:

      1) The sample mean and the sample variance for all sample sets taken from all compliance points, and shall determine if the difference between the mean of each sample set and the water quality protection standard is significant at the 0.05 level using Cochran's Approximation to the Behrens-Fisher Student's t-testas described in Appendix II of Subchapter 15. The discharger may propose an alternative statistical procedure to be used in making this determination pursuant to Section 2555(h)(3) of Subchapter 15. If a statistically significant

difference is found this shall be reported as a suspected requirement violation in the letter of transmittal.

2) A graphic description of the velocity and direction of groundwater flow under/around the waste management unit, based upon the past and present water level elevations and pertinent visual observations.

3) The method and time of water level measurement, the type of pump used for purging, pump placement in the well; method of purging, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of the pH, temperature conductivity and turbidity testing, well recovery time, and method of disposing of the purge water.

4) Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations. The chain of custody record.

c. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.

d. Laboratory statements of results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board.

1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than EPA approved methods or Standard Methods, are used the exact methodology must be submitted for review.

2) In addition to the results of the analyses, laboratory quality control/quality assurance (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; an explanation for any recovery rate that is less than 80%; the results of equipment and method blanks; the results of spiked and surrogote samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.

e. An evaluation of the elevation of leachate built up within the landfill and compliance with Specification B.5 of Order No. 87-xxx.

2. CONTINGENCY REPORTING

A. A report shall be made by telephone of any seepage from the disposal area immediately after it is discovered. A written report shall be filed with the Board within five days. This report shall contain the following information:

1) a map showing the location(s) of discharge;
2) approximate flow rate;
3) nature of effects; i.e. all pertinent observations and analyses; and
4) corrective measures underway or proposed.

B. A report shall be made in writing to the Board within seven days if a statistically significant difference is found between a self-monitoring sample set and a WQPS. Notification shall indicate what WQPS(s) have been exceeded. The discharger shall immediately resample at the compliance point(s) where this difference has been found and analyze another sample set of at least four portions split in the laboratory from the source sample.

C. If resampling and analysis confirms the earlier finding of a statistically significant difference between self-monitoring results and WQPS(s) the discharger must submit to the Board within 90 days an amended Report of Waste Discharge for establishment of a verification monitoring program meeting the requirements of Section 2557 of Subchapter 15. This submittal shall include the information required in Section 2556(b)(2) of Subchapter 15.

D. The discharger must notify the Board within seven days if the verification monitoring program finds a statistically significant difference between samples from the verification monitoring program point of compliance and the WQPS(s).

E. If such a difference or differences are found by the verification monitoring program, it will be concluded that the discharger is out of compliance with this Order. In this event the discharger shall submit within 180 days an amended Report of Waste Discharge requesting authorization to establish a corrective action program meeting the requirements of Section 2558 of Subchapter 15. This submittal shall include the information required in Section 2557(g)(3) of Subchapter 15.

3. By January 31 of each year the discharger shall submit an annual report to the Board covering the previous calendar year. This report shall contain:

a. Tabular and graphical summaries of the monitoring data obtained during the previous year.

b. A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be neded to bring the discharger into full compliance with the waste discharge requirements.

c. A map showing the area, if any, in which filling has been completed during the previous calendar year.

d. A written summary of the groundwater analyses indicating any change in the quality of the groundwater.

e. An evaluation of the effectiveness of the leachate monitoring/ control facilities.

4. A boring log shall be submitted for each sampling well established for this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 30 days after well installation.

   a. For all monitoring wells established for this program continous core samples must be taken in all borings, unless multiple wells are to be constructed in the immediate vicinity, in which case only the deeper boring would need to be continously sampled. Each boring log must include the name, registration number and signature of the supervising geologist, the name of the person actually logging the hole, the name of the drilling company, type of drilling equipment used, grain size distribution analysis, soil moisture content, blow count, sample recovery rate, initial and stabilized water levels, in-place permeability, and ground surface elevation. Soil samples should be retained for chemical analyses in case polluted ground water is found.

   b. For all monitoring wells established for this program, well construction details must include a sieve analysis of the formation and sand pack; the rationale for the selected slot size and sand pack; and the method used to place the sand pack, seal, and grout. Wells must be screened over the full length of the aquifer, and the sand pack cannot extend more than one foot above the screened interval. A two to four foot concrete sanitary seal is usually specified in the county drilling permit. All wells must be surveyed to a clearly marked common reference point.

   c. For all monitoring wells established for this program transmissivity, hydraulic conductivity and gradient must be determined.

Part B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS

A. WASTE MONITORING

1. Record the total volume and weight of refuse in cubic yards and tons disposed at the site during the month. Report this information quarterly.

2. Record the volume of fill completed, in cubic yards, showing locations and dimensions on a sketch or map. Report this information quarterly.

3. Record the volume and weight of sewage sludge in cubic yards and tons disposed at the site during the month. Report this information quarterly.

All on-site, ground water, leachate, and surface water analysis, observtions, and examinations shall be performed according to the specifications shown in Table 1.

B. ON-SITE OBSERVATIONS

Station	Description
V-1 thru V-'n'	Located on the waste disposal area as delineated by a 500 foot grid network.
P-1 thru P-'n' (perimeter)	Located at equidistant intervals not exceeding 500 feet around the perimeter of the disposal area.

C. GROUND WATER MONITORING

Station	Description
G-1 thru "G-n"	Located as shown on the attached site map.

D. LEACHATE MONITORING

Station	Description
GR-1 thru "GR-n"	Leachate control facilities including sumps and wells to be installed. Located as shown on the attached map. Leachate samples collected for chemical analysis should be collected from the leachate risers, rather than the tank to prevent aeration of the sample.

E. SURFACE WATER MONITORING

Station	Description
E-001	At a point, after all the diverted surface water, runoff, and subsurface waters are combined, and before the combined waters are returned to the natural drainage course.
E-002	At a point in the creek above the fill.
E-003	At a point in the system before the upper ground water section is combined with the surface waters.
E-004	At a point in the system before the lower ground water section is combined with the surface waters.

F. SEEPAGE MONITORING

Station	Description
S-1 thru S-'n' (seepage)	At any point(s) at which seepage is found occurring from the disposal area.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. 87-47.

2. Is effective on the date shown below.

3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer, or request from the discharger.

Roger B. James
Executive Officer

JUNE 10, 1987
Date Ordered

TABLE 1

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	E-001 & E-002 (1)			E-003 & 4		All MW (2) Wells		All G Wells		All GR Stations		All V & D Stations (3)		All S Stat.
Type of Sample	Grab	Cont	C-24	Grab	C-24	Grab	C-24	Grab		Grab		Observe		Grab
Flow rate (gpd)		Cont			Cont									E
pH (units)		Cont		D		M		Q		2/Y				E
Electrical Conductivity	2/M			M		M		Q		2/Y				E
Dissolved Oxygen (mg/l)	D			D										E
Temperature (^{O}F)	D			D		M								
Total Dissolved Solids (mg/l)			W	2/M		M		Q		2/Y				E
Total Phenols (mg/l)	W			2/m		M				2/Y				E
Chlorides (mg/l)			W	2/M		M		Q		2/Y				
Total Organic Carbon (mg/l)	W			2/M		M		Q		2/Y				E
Chemical Oxygen Demand (mg/l)	W			2/M				Q						E
Total Kjehdahl Nitrogen (mg/l)	W			2/M		M		Q		2/Y				E
Water level (ft. above M.S.L.)						M (4)		Q		M (4)				
EPA Method 601 ug/l	M (5)			M (5)		M (2)				2/Y				E
EPA Method 602 (ug/l)			M (5)	M (5)		M (2)				2/Y				E
Setteable Solids (ml/l/hr)			W	2/M										
Selenium (ug/l)			W	2/M		M				2/Y				E
Zinc (ug/l)			W	2/M		M				2/Y				E
Nickel (ug/l)			W	2/M		M				2/Y				E
Iron (mg/l)			W	2/M		M				2/Y				E
Potassium (mg/l)			W	2/M		M				2/Y				E
Sodium (mg/l)			W	2/M		M				2/Y				E
Fluoride (mg/l)			W	2/M		M				2/Y				E
Cadmium (ug/l)			W	2/M		M				2/Y				E
Total Chromium (ug/l)			W	2/M		M				2/Y				E
Manganese (ug/l)			W	2/M		M				2/Y				E

TABLE 1 (continued)

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	E-001 & E-002 (1)			E-003 & E-004		All MW (2) Wells		All G Wells		All "GR" Stations		All V & P (3) Stations		All S Stat.
TYPE OF SAMPLE	Grab	Cont	C-24	Grab	C-24	Grab	C-24	Grab		Grab	C-24	Obser	Obser	Grab
Silver (ug/l)			W	2/M		M				2/Y				E
Ammonia Nitrogen (mg/l)	W			2/M										E
96-Hr Acute Toxicity (% Survival)			M (6)											
Total Suspended Solids (mg/l)			W	2/M		M				2/Y				
Turbidity (Jackson Turbidity Units)			W	2/M										E
Standard Observations												D		
Color (Color Units)	W			2/M		M		Q		2/Y				E
Acetone (ug/l)	M (5)			M (5)		M (2)				2/Y				
2-Butanone (ug/l)	M (5)			M (5)		M (2)				2/Y				
2-Hexanone (ug/l)	M (5)			M (5)		M (2)				2/Y				
Total xylenes (ug/l)	M (5)			M (5)		M (2)				2/Y				
Naphthalene (ug/l)	M (5)			M (5)		M (2)				2/Y				

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
C-X = composite sample - X hours (used when discharge does not continue for 24-hour period)
Cont = continuous sampling
DI = depth-intergrated sample
BS = bottom sediment sample
O = observation

TYPES OF STATIONS

I = intake and/or water supply stations
A = treatment facility influent stations
E = waste effluent stations
C = receiving water stations
P = treatment facilities perimeter stations
L = basin and/or pond levee stations
B = bottom sediment stations
G = groundwaters stations

FREQUENCY OF SAMPLING

E = each occurence
H = once each hour
D = once each day
W = once each week
M = once each month
Y = once each year

2/H = twice per hour
2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/y = once in March and once in September
Q = quarterly, once in March, June, Sept. and December

2H = every 2 hours
2D = every 2 days
2W = every 2 weeks
3M = every 3 months
Cont = continuous

NOTES:

1. When flow is present.

2. Ground water monitoring should be completed on a monthly basis for all parameters (except settleable solids) for one quarter to determine the existing quality of the ground water. After three months, EPA 624 and 625 analyses may be reduced to quarterly. If after the first year ground water protection standards have not been exceeded, monitoring for all parameters may be reduced to quarterly.

3. A map showing visual and perimeter compliance points (V and P stations), and surface water monitoring and compliance stations shall be submitted by the discharger in the monitoring report.

4. Water level monitoring in ground water and leachate monitoring wells should be completed monthly; before each major storm, if possible; within 24 hours; and for several days after storms greater than two inches in 24 hours.

5. After three months, monitoring may be reduced if the water quality protection standards have not been exceeded.

6. Testing shall be flow-through or static renewal biosssay, using either rainbow trout or fathead minnow.